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Entente cordiale: Anglo-French exchange among calico printers

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The history of calico printing in the modern era has often been presented as a fierce competition between England and France. But this construct seems to have been created retrospectively for the purpose of cultivating nationalistic pride in skill and innovation. Certainly such competition operated at the mercantile level in market regions that varied over time, but did this rivalry extend to the manufacturers? If so, how can we explain the amount and frequency of contact between calico printers on the two sides of the Channel? Did calico printers have more to gain from scientific exchange than from trade secrecy? Even though calico printers themselves evoked the language of competition when promoting industry matters amongst their own compatriots, a different story emerges from their wider actions.

Oberkampf's journal of 1773 to 1774

Christophe Philippe Oberkampf provides us with an early example of cross-Channel contact. He made regular buying trips to London, and his surviving journals detail, for example, one such visit at the end of 1773. After his arrival in London, Oberkampf made his first business contact with the firm of Agassiz and Grellet. Lewis Agassiz was a Swiss merchant naturalised a British citizen in 1769, and had been joined sometime before 1772 by Samuel Grellet, another Swiss emigré.¹ Oberkampf also spent time with the principals of Liotard, Aubertin and Co., another firm with Swiss roots. Mark Liotard had returned to Geneva by this time,² but Peter Aubertin, originally from Neuchâtel,³ remained in London working alongside Philippe Rivier from Geneva who had joined the firm in 1772.⁴ It was these three Swiss expatriates, Agassiz, Aubertin and Rivier, who arranged Oberkampf's contacts with English

¹ Grellet was naturalised British in 1763.

² Jeffares, Neil (2016) "Liotard's houses in London" Blog post: <https://neiljeffares.wordpress.com/2016/01/13/liotards-houses-in-london/>

³ Aubertin was naturalised British in 1760.

⁴ Stelling-Michaud, Suzanne (1976) *Le livre du recteur de l'Académie de Genève 1559-1878. Notice biographiques des étudiants N-S*. Genève: Librairie Droz, 355.

calico printers. Although the main purpose of his visit was to buy cotton cloth for printing, Oberkampf's activities went beyond the purely commercial to socialising with English colleagues at dinner and the theatre.

Oberkampf's itinerary over the course of the next three weeks included visits to nine manufactories, where he sometimes made sketches (see Table 1).⁵ He first visited Robert Jones at Old Ford where he later acquired designs for copperplates. He was also shown around the works of Pyner & Woodward at Stratford, and Arbuthnot at Mitcham.⁶ Only at the works of Talwin & Foster did he encounter a reticence to show work in progress.⁷ It seems that in the world of the new manufacturing elite, the quality of one's introductions went a great way toward determining the openness of one's reception. And the Swiss merchants in London were powerful forces in the sphere of calico printing; the business contacts of Agassiz and Grellet spanned the major cities of four continents.⁸

But we cannot ignore that Oberkampf acquired not only engraved copperplates at Old Ford. He also gained the services of the engraver Pierre-Charles Lemeunnié who arrived at Jouy the following year with his wife and three children. All three children were to become engravers, including the youngest Pierre-Guillaume Lemeunnié, better known by the mononym *Peter*.⁹ So, why then was Oberkampf so warmly

⁵ Archives nationales, Roubaix 2003 059 1 (ex 41AQ/1): Journal 1773-74: "22. Mercredi. Rue St Martin le grand, chez lapreteur ou il a 25 a 30 Lisseur porte une P^s Baftas qui etai Lisser Double en 16 minutes avec un cailliou de 8 p^o-/s de large poly en trangent [V] enmancher dans une perchez a 2 manches comme le model *que je fait en crajon*. De lavoire les 3 Silendre tournne par 6 Chevaux, *suivant le croquis*."

⁶ John Arbuthnot (1729-97) was an eminent calico printer and an authority on linen printing about which he spoke before the House of Commons 25 Apr 1774. His works closed in 1779.

⁷ Archives nationales, Roubaix 2003 059 1 (ex 41AQ/1): Journal 1773-74: "28. A Old Fort Chez Jonns achepter les 2 beau meuble et choisir les Desi en planche de cuivre et autre. Et Chez M. Prestens a Stredford qui netai pas chez lui. Et chez Talwin ou je ne rien vue que des M^d finy."

⁸ London Metropolitan Archives: CLC/B/006/MS34929 Agassiz Son & Co.

⁹ Serge Chassagne (1980) *Oberkampf, un entrepreneur capitaliste au Siècle des Lumières*. Paris: Aubier Montaigne, 126, note 66.

welcomed? Was he hiding his true identity? Certainly, Oberkampf used his Swiss Protestant background to ease his way in England. But he wrote in a letter that he was received in the best possible way *despite being recognised* in one manufactory.¹⁰ This suggests that Enlightenment ideals of the sharing of knowledge may have been in operation, that perhaps there was a sense of confraternity amongst experts in engraving and colouration, at least in the higher echelons.

Protectionism and English machinery

The anxieties of British manufacturers concerning their competitive edge over other countries appear to have centred upon advances in engineering, especially the technological advances in cotton spinning from the 1770s.¹¹ However, legal measures were expanded to include calico printing in 1782, prohibiting luring workmen abroad and the export of “blocks, plates or other implements”.¹² Textile printing was not yet mechanized so this was chiefly targeted at the skills of fine block cutting and copperplate engraving, and improvements in machinery for calendering.¹³ The penalty for sending machinery or tools abroad entailed forfeit of the goods and a fine of £200, a huge sum at the time, but the risk of capture was relatively small. Machines could be

¹⁰ Archives nationales, Roubaix 2003 059 1 (ex 41AQ/1): Copy letter 14 Dec 1773. “Je ete hier avec M^r Po: dans deux manufac^t ou nous avons ete recu, on ne peu letre mieux, quoique je ete conu dans la derniere.” Oberkampf visited Jones at Old Ford, then Arbuthnot at Mitcham on the 13th.

¹¹ A letter in the *Manchester Mercury* of 1774 warned against “Jews and other foreigners” procuring machines and tools used in the manufacture of Manchester goods, and enticing artificers abroad that would “be the destruction of the trade of this country, unless timely prevented.” 1 Mar, 4; and repeated during April and May.

¹² In 1718, the British Parliament had passed an “Act to prevent the Inconveniencies arising from seducing Artificers in the Manufactures of Great Britain into foreign Parts,” which was bolstered in 1750 by “An Act for the effectual punishing of Persons convicted of seducing Artificers in the Manufactures of Great Britain or Ireland, out of the Dominions of the Crown of Great Britain...” It was extended in 1782 by “An Act to prevent the seducing of artificers or workmen employed in printing calicoes, cottons, muslins, and linens, or in making or preparing blocks, plates or other implements used in that manufactory, to go to parts beyond the seas...”

¹³ Oberkampf gained dispensation from Napoleon to allow the imprisoned Scotsman Robert Hendry to return to England, from whence. Hendry communicated to Jouy advances in multi-colour flat plate printing. Archives nationales, Roubaix 2003 059 1 (ex 41AQ 1) Notes on Hendry by Oberkampf, 1806. “Celui qui nous a donner tout les connaissance mecanique p. les prese bien a Imprimer en planches de Cuivre, et Jusqua 3 Couleurs q’avec 2 planches... afin il nous a montré fidelment tous qu’il Saver et q’on pratiquer alors de plus nouveau en Engleterre... etant Resté 3 ans ½ (comme prisonier de guerre) avec nous.”

shipped broken down in pieces, and with different machines mixed together, to prevent customs officers being able to identify the prohibited textile machinery.

The strongest penalty was reserved for those who enticed skilled workmen to go abroad, entailing one year's imprisonment and a fine of £500. In December 1791, François-Charles-Louis Albert, an Alsatian involved in the mechanization of French cotton spinning, was unlucky enough to be caught on an industrial espionage mission and arrested in Manchester. However, five years later a local committee was at pains to release him given that he could not meet payment of his fine.¹⁴ After release, Albert married an Englishwoman before returning to France.¹⁵ Here, even one who was meted the strongest penalty was neither vilified nor treated badly, but we must allow that in British eyes, an Alsatian was not a Frenchman.¹⁶

The restrictive export Acts were repealed in 1824 in the wake of the post-war depression, but machinery exports were still subject to Board of Trade approval. From the records of approved exports, we can interpret the changing attitudes of the time.¹⁷ The copper merchant, Pascoe Grenfell, began exporting large quantities of engraved copper rollers to the European continent starting in April 1826, shipping 100 to 500 rollers at a time. Grenfell was not involved in textiles, so in seeking wider markets for engraved rollers, he was hoping to expand sales of copper. In October 1826, the Board approved a roller printing machine for the port of Le Havre, and there followed

¹⁴ *Manchester Mercury*, 25 Oct 1796, 4. John Higgin, Keeper of HM Gaol, the Castle of Lancaster, signed his release.

¹⁵ Brandt, André (1967) "Apports anglais à l'industrialisation de l'Alsace au début du XIX^e siècle" *Bulletin de la Société Industrielle de Mulhouse*, 726, 1-15. Also Jean-Marie Schmitt (1986) "Relations between England and the Mulhouse Textile Industry in the Nineteenth Century: an outline explanation" *Textile History*, 17, 27-38. Schmitt names the bride as Elizabeth Johnson.

¹⁶ Alfred Binyon, in describing his visit with Adam Baumgartner to the Paris Exhibition of 1839, remarked "I must observe however that all the persons I saw of Mr Baumgartner's acquaintance were Alsatians— ½ German ½ French, good jolly folks much more resembling the English in person and habits than French people." Cumbria Record Office BDX 339/1/5. Letter 24 Jun 1839 from Binyon to his mother.

¹⁷ The National Archives. BT6/ 151. "A List of Machinery allowed to be exported in each Year;— Since January 1825." The notes on exports that follow come from this source.

a steady growth in exports of roller printing machines via Hamburg. Of more interest to this study, an application to export printing machines and rollers in May 1828 was granted in respect of France, but refused to the United States (see Fig. 1). Apparently, the Board of Trade was against assisting the infant American textile industry as this might prejudice exports of English printed calicoes. By contrast, selling machines to France held no such risk, and was viewed as in the interests of the English machinery manufacturers. The protectionist battle to retain an English advantage over France in machine-making was acknowledged to have been lost, with English managers known to be strategically placed in the major Parisian workshops.¹⁸

In 1829, Joseph Koechlin compared English machines to those made by Lefèvre in Paris, revealing little difference in technical understanding. There were distinctions in the way the pressure roller was actuated, and the way the doctor blade was supported for which he gives the advantage to the French machine, while noting, “The elegance of the English machine as a whole pleases the eye; its structure of cast iron takes less space, and is less inconvenient for workers; in this we must give priority to the English machine.”¹⁹ Each nation thus sought enhancements suited to its particular operational circumstances, with the French aiming at reduction in running pressure to decrease energy consumption, and the English maximizing the advantage of iron framing. Rather than any national difference in technological potential, it was the British orientation toward development of *intaglio* printing, and the French toward relief printing methods that distinguished their direction of travel.²⁰

¹⁸ House of Commons 1824: 51. First Report from Select Committee on Artizans and Machinery, 6. Engineer John Martineau stated “The three principal manufactories at Paris are conducted by Englishmen, viz. the works at Charenton, by Mr. Munby; those at Chaillot, by Mr. Edwards; and a third, by a Mr. Steele.”

¹⁹ “Rapport fait par M. Joseph Koechlin, au nom des Comités de mécanique et de chimie, sur la notice de M. Risler, lu à la Séance du 30 Octobre 1829”, *Bulletin de la Société Industrielle de Mulhausen*, 3 (2nd ed.), 1836, 256-274.

²⁰ In 1829, Jérémie Risler described in detail his machine for printing three rollers in relief made up from elements like pieces of type, although admitting it was not suited to the *intaglio* styles then popularised by perfections in the engraving process. “Notice sur les machines à imprimer les toiles de coton, lue par M. Jérémie Risler à la séance du 25 Septembre 1829” *Bulletin de la Société Industrielle de Mulhausen*, 3 (2nd ed.), 1836, 249-255.

English machines for engraving calico-printing rollers were still the subject of protection; the Board of Trade barred the export of an engraving machine to France in 1827, and refused another to Hamburg in 1828. Engraving presented a divergence between English and French practice: the French preferring direct mechanical engraving with the burin for its cleaner line, while the British developed machines to cut away a varnish for etching afterwards. We can see in this choice the growing distinction between the French luxury market orientation and the British mass-market focus.

Camille Koechlin at Clitheroe

Even before the end of governmental restraints, contact between French and English calico printers was maintained. We learn from the designer Henri Lebert that in 1813, despite the war, Samuel Widmer received permission from Napoleon to visit England and Scotland, and brought back with him information about multiple roller printing. With the cessation of hostilities between Britain and France, travel eased. Lebert relates an anecdote about the reception of Nicolas Koechlin by a leading manufacturer of London around 1820. “Asking permission to see the works, he was at first refused. But Koechlin took up his portfolio holding the best examples from his works in Mulhouse and gave it to the receptionist saying, ‘Show these to your master, and ask him if the person who can make these needs to come here to learn anything.’ The English manufacturer, much taken with what he saw, hurried to give Monsieur Koechlin a princely reception, and showed him around his entire establishment not withholding anything.”²¹ Such stories should not be taken at face value, but for what they reveal about the anxiety on both sides for reassurance that they were not lagging behind.

²¹ Lebert, Henri (1865) “Notice sur les développements du dessin d’impression des toiles peintes en Alsace”, *Revue d’Alsace*, 1 (3^{me} série), 5-16. Written in 1862 and published posthumously.

Factory visits remained the essential feature of industrial exchange. The Alsatian Adam Baumgartner,²² who had settled in Manchester after the failure of his family business in 1821, became a key figure in facilitating such visits in both directions. In 1837, he arranged the trip of Henri Schlumberger and Auguste Scheurer to England. And he himself accompanied Alfred Binyon, of Thomas Hoyle and Sons, to France in 1839. Baumgartner's Alsatian contacts gained Binyon entry everywhere, even it seems, to Oberkampf's works at Jouy: "I was invited to dinner to meet... the first calico printer in the world. I saw their warehouses, their prints, their works, and domestic arrangements."²³

Another Alsatian emigré, Frederick Steiner, probably initiated the liaison between James Thomson, leading calico printer of Lancashire, and the Koechlin family in Alsace. Steiner had studied under Daniel Koechlin before economic circumstances led him to emigrate to England in 1817. Thomson and Steiner then worked together at Broad Oak print works before each started business on his own. Hence, Thomson welcomed young Camille Koechlin to his works in 1830. Koechlin's notebooks²⁴ testify to his careful observations of each workplace, comprehensively describing every process, noting differences between French and English practice— even the pay of the workers. In the engraving studio, he remarked on a specialist type of engraving using a flat circular mill that allowed floral motifs to be rotated to different angles, and afterward connected with hand-engraved stems; the notebooks contain samples. Koechlin's notes testify to a full and open sharing of technical knowledge at a time when engraved roller printing was still in development, and had just reached the capacity to print three colours in register.²⁵

²² Adam Baumgartner (c.1777-1847) worked at Middleton with John Dugdale at a Turkey red dyeworks.

²³ Cumbria Record Office BDX 339/1/5. Letter 24 Jun 1839 from Binyon to his mother.

²⁴ Archives Départementales de la Seine-Maritime. Fonds Koechlin 60J-1: Carnets de notes.

²⁵ Minor technical details found nowhere else, such as the slight convexity of printing cylinders, are methodically noted.

Chevreul and Persoz

British calico printers had long been quick to secure French scientific publications. Already in 1791, Berthollet's *Éléments de l'art de la teinture* was available in English translation within the year.²⁶ When Chevreul published his famous text on colour theory in 1839, there were copies in England within a year. Chevreul's ideas on simultaneous contrast were probably the stimulus for designs at Charles Swaisland's print works that anticipate *pointillism* in painting by nearly fifty years (see Fig. 2). The Englishman Frederick Crace-Calvert went to France in 1835 to study chemistry under Girardin in Rouen, and then from 1841 to 1846, he assisted Chevreul at the Gobelins and in Paris (see Fig. 3). Returning to Manchester, he set up as a consultant chemist for manufacturers, and was a noteworthy promoter of Anglo-French exchange.²⁷

When Jules Persoz published his extensive treatise on textile printing in 1846, he made ample use of samples from British as well as French sources. Included are the work of James Thomson, Thomas Hoyle, and Frederick Steiner; as well as the Glasgow firms Walter Crum and Muir Brown & Co. Persoz carefully credits James Thomson alongside Daniel Koechlin Schouc as the foremost contributors to the lapis style of printing (see Fig. 4). It is also worth mentioning in this context that Charles O'Neill, who translated Persoz's treatise, was a corresponding member of the Société Industrielle de Mulhouse. It is likely that by mid-century, once an industrial discovery was published, it was only a matter of days before it was known in both Manchester and Mulhouse.

Lockett's engraved rollers

Henri Lebert relates that "with the arrival of peace in 1814... the French industry observed with astonishment the immense progress of the English in roller engraving

²⁶ A copy of the translation now in the Bodleian Library passed down through the Manchester Mechanics Institute, and once belonged to Robert Parker, a calico printer.

²⁷ Ott, Florence (1999) *La Société Industrielle de Mulhouse 1826-1876: ses membres, son action, ses réseaux*. Presses Universitaires de Strasbourg, 597

and flat-plate engraving.” He continues, “the leading houses of Alsace had their most complicated designs engraved in England until about 1830... chiefly in the establishment of Mr. Lockett, head of the most highly accomplished workshops using the new processes.”²⁸

Joseph Lockett of Manchester had early success in applying mill engraving to calico printing. This technique allowed the creation of fine textural work used in grounding patterns, known as *cover grounds*. His company’s superlative work in this style led to large export sales. At their destination, the grounds of Lockett’s rollers could be combined with motifs of the client’s own invention (see Fig. 5).²⁹ However, books from Daniel Dollfus-Ausset document a campaign made to England in 1853,³⁰ returning to Alsace with an English shading machine, lifting machine, ruling machine, and eccentric engraving machine.³¹ One book records a recipe for etching varnish “given to M. Schaeffer by an English engraver”. This sharing of information was partly in aid of selling copper rollers; dimensions of the rollers ordered on this visit were noted in the book.

Conclusions

Nationalistic histories of calico printing trying to prove priority of invention largely ignore the interchanges between countries that supplied vital stimulation for new developments. In contradiction of their supposed enmity, French and English calico printers participated in a rich interchange of ideas, despite war and export restrictions. When examined more closely, a distinctive Swiss and Alsatian connection can be

²⁸ Lebert, Henri (1865) “Notice sur les Développements du dessin d’impression des toiles peintes en Alsace : Suite et fin” *Revue d’Alsace*, 1 (3^{ème} série), 75.

²⁹ Lockett also perfected the mechanically-engraved patterning known as eccentrics (*guillochés*) around 1823. Although Swiss engravers produced similar work by the following year, Lockett’s equipment allowed for a greater variety because it did not require direct engraving.

³⁰ Musée de l’Impression sur Etoffes, Mulhouse: Geschenk Daniel Dollfus-Ausset. 117/51 “Campagne Industrielle Angleterre juillet 1853”, and 118/52 “Englische Quillocks 1853”.

³¹ Société Industrielle de Mulhouse (1902) *Histoire documentaire de l’industrie de Mulhouse et de ses environs au XIX^e siècle*, 2. Mulhouse: Veuve Bader, 646.

found at the heart of most of these contacts. Florence Ott, whose history of the Société Industrielle de Mulhouse traces the elaborate networks of its members, posits the Swiss tradition of travelling journeymen³² as the model for the journeys of Alsatian calico printers. Such travel often worked along the lines of religious affiliation, and so could explain the destination of Protestant England. Ott also raises the influence of freemasonry that could be an additional factor. Fed by emigrés from Alsace to Manchester; machinery and technicians from Lancashire to Alsace; and scientific contacts between Manchester and Paris, there was a surprising sharing of calico printing knowledge at a time when secrecy and protectionism were still in general force.

A paper presented by Camille Koechlin to the Industrial Society of Mulhouse in 1832³³ provides a hint of what lay beneath the incessant desire to know what was happening on the other side of the Channel. Koechlin went through considerable trouble to uncover an English printing technique that the inventor wished to keep secret. This method allowed stripes to be printed side by side without any bleeding together of the colours. Koechlin's published diagrams demonstrate the complexity of the process (see Fig. 6). After hearing his lengthy and detailed report, Albert Schlumberger summed up on behalf of the Industrial Committee that, despite the excellence of the research, it had no use in France. It was only suited to the export trade in cheap, non-fast colours of the English. It seems that the real competition was not between England and France, but between fast colour printers and loose colour printers: *bon teint* and *petit teint*. Those British manufacturers who produced high-quality colour-fast work were familiar with their French counterparts, and were willing to benefit from exchange. And this exchange was more about a desire to know than a desire to compete.

³² Known as "compagnons".

³³ Koechlin, Camille (1832) "Mémoire sur une machine employée en Angleterre, pour l'impression de plusieurs couleurs formant un fond de rayures... *Bulletin de la Société Industrielle de Mulhouse*, 6, 374-397.

Table 1. Oberkampff's English factory visits, 1773-1774

Date	Manufactory	Places or article viewed
13 Dec	Old Ford: Robert Jones	Cloth made to resist tearing
13 Dec	Mitcham: Arbuthnot	Block printing, engraving, finishing, madder dyeing, bleachfield, drying, drawing shop, madder grinding
21 Dec	Stratford: Pyner & Woodward	Block printing, engraving, horse-powered wheel, madder grinding
21 Dec	Stratford: Williams	Bleachfields, madder prints in progress, horse wheel, gum crushing mill
22 Dec	London: unidentified finisher	Piece of bafta finished on both sides in 16 minutes
24 Dec	London: Charles Napper	Calendering operations
28 Dec	Old Ford: Robert Jones	Purchased two furnishings and designs for copperplates
30 Dec	Bromley Hall: Talwin & Foster	Finished merchandise
30 Dec	Merton: William Fenning	Warehouse, madder mill, alum mill, block printing, block repair, drawing shop, engraving, storeroom
3 Jan	Crayford: John Munns	Drawing shop, block printing, colour kitchen, china blue vats, bleachfields

Original French:

Date	Manufactory	Places or article viewed
13 Déc	Old Ford: Robert Jones	Une piece fin ourlade pour empecher le dechirure
13 Déc	Mitcham: Arbuthnot	Imprimerie, chambre des graveurs, femme picoteuse, cylindre par eau, tamis pour garance, chaudières de teinture, garançage, canaux pour blanchissage, sêchage, chambre de dessinateurs, moulin pour garance
21 Déc	Stratford: Pyner & Woodward	Imprimerie, chambre de graveur, cylindre marchant par deux chevaux, moulins pour garance
21 Déc	Stratford: Williams	Pré couvert de toiles, chaudières pour garançage, roue de fer, écraseur de gomme
22 Déc	London: apprêteur non identifié	Pièce be baftas qui etait "lisser double" en 16 minutes avec un caillou poli

24 Déc	London: Charles Napper	Calendrage
28 Déc	Old Ford: Robert Jones	Acheter deux beaux meubles et choisir les dessins en planche de cuivre et autre
30 Déc	Bromley Hall: Talwin & Foster	Rien vue que des marchandises finis
30 Déc	Merton: William Fenning	Endroit ou il tenait les toiles prêt á livrer, moulins pour garance, moulin pour alun, 40 tables á imprimer, graveur qui raboter les vieux planches, quatres dessinateurs “qui ne savaient rien”, trois graveurs en cuivre, grenier pour toiles blanches
3 Jan	Crayford: John Munns	Chambre des dessinateurs, imprimerie, chambre de couleurs, cuves pour le bleu d’Angleterre, le pré ou il n’avoient peu de toiles

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Fig. 1. Extract from “List of Machinery...exported”. National Archives BT6/151.

Fig. 2. Design by Charles Swaisland for Lindsay & Pattinson, 28 October 1840, displaying pointillist technique. Downing Collection at Manchester Metropolitan University.

Fig. 3. Frederick Crace-Calvert, frontispiece to *Dyeing and Calico Printing*, 2nd ed., 1876.

Fig. 4. James Thomson lapis print from Persoz, *Traité théorique et pratique de l'impression de tissus*, 1846.

Fig. 5. Lockett cover ground with added figure. Downing Collection at Manchester Metropolitan University.

Fig. 6. Diagrams from Camille Koechlin’s article in the *Bulletin de la Société Industrielle de Mulhouse*, 6, 1832.

Original French:

Quote from Henri Lebert, *Revue d’Alsace*, pp.15-16.

Je me souviens ici d’une anecdote de l’époque de 1818 á 1820. M. Nicolas Koechlin, pendant un voyage en Angleterre, se présenta chez un des premiers fabricants de Londres, en demandant la permission de voir l’établissement. La réponse du chef de la maison étant un refus, M. Koechlin prit son portefeuille renfermant les plus beaux échantillons de la maison de Mulhouse, le remit au concierge en lui disant: “Montrez

cela à votre maitre et demandez-lui si celui qui a fabriqué cela vient ici pour apprendre quelque chose?” LE fabricant anglais, étonné et enthousiasmé de ce qu’il voyait, s’empressa de faire à M. Koechlin une reception princière et lui montra tout son établissement sans reserve.

Quote from Henri Lebert, *Revue d’Alsace*, p.75.

La France marcha rapidement sur les traces de l’Angleterre quant au dessin, mais la gravure anglaise était déjà arrivée à un tel degré de perfection, que les premières maisons d’Alsace faisaient, jusque vers 1825-1830, graver en Angleterre leurs dessins les plus difficiles à rendre par leurs effets. Ces rouleaux furent principalement graves dans l’établissement special de M. Lokett, qui dirigeait les ateliers les plus perfectionnés par les nouveaux proceeds.

List of machines from *Histoire Documentaire*, p.646.

1853. Daniel Dollfus Ausset introduit à Mulhouse les nouvelles machines anglaises: Shading-machine, lifting machine, ruling machine, machines à guillocher, etc., et fonde un grand atelier de gravure de faubourg de Bâle (Sussner & C^{ie}).